

THE GENUS *NEODIPLOCAMPTA* CURRAN AND RELATED BEE FLIES
(DIPTERA: BOMBYLIIDAE)

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ABSTRACT—This paper discusses the inter-relationships of the species of the genus *Neodiplocampta* Curran, of which only 3 species have been known. In this work, *Chrysanthrax mira* Coquillett is transferred to *Neodiplocampta* and 8 new species and 2 new subspecies are recognized and described. All of them are keyed to show relationships. The relationships of *Dipalta* Schiner and *Diplocampta* Roeder are discussed.

In 1966 the senior author, in a short paper on bombyliids, described an unusual bee fly from southern Brazil which he placed in the genus *Neodiplocampta* Curran, within a new subgenus, *Agitionia*. At that time he expressed the purpose of reviewing this genus at a later date. This paper now presented by Hull and Martin proposes to describe and key all of the species known to us (Illustrations by Martin).

Considerable material had accumulated in our collections from the southwestern States and also Mexico, and we are very deeply indebted to the late Dr. Reginald Painter for sending his collection of this genus so that this work might be more comprehensive. We are most appreciative of the interest expressed by Mrs. E. M. Painter in the progress of this work. We thank her for her generosity in allowing us to retain alternate specimens from series. Where available a representative will be sent to the U.S. National Museum.

Neodiplocampta Curran

Neodiplocampta Curran, North American Diptera. p. 193, 200. (1934). Type-species: *Diplocampta roederi* Curran, by original designation. Species included: *roederi* Curran, and *Anthrax paradoxa* Jaenicke.

These medium sized flies, belonging to a group we distinguished as the Villini, are restricted to the New World and are particularly abundant in the southwestern portion of North America. They also range into the southern part of Brazil. In brief, they are distinguished by a face which ranges from bluntly conical to acutely conical and they usually have the second vein much distorted and S-shaped to a varying degree. All of the species which we place in *Neodiplocampta* Curran agree with the type-species in having a characteristic pattern of dark sepia spots, relatively diffuse, placed at cross veins, vein origins

and usually at one or both parts of the sigmoid apical loop at the end of the second vein. There is a deep brown or sometimes yellowish tinge through the costal, and subcostal cells, much of the marginal and first basal cells; yet the brown of these areas is distinct from the complement of spots as an inspection of these spots from an oblique view readily makes apparent. The wing as a whole varies from hyaline to distinctly tinged with pale brown or brownish yellow. All the known species have the contact of the discal and fourth posterior cells no less than the length of the anterior cross vein and it is usually greater; this at once distinguishes them from species of *Chrysanthrax* Osten Sacken where the contact if not punctiform is very short indeed, and where the wing pattern and the configuration of the second vein are simple. Species like *roederi* Curran, and like *painteri*, n. sp. have a relatively blunt face much as in *Chrysanthrax*; species like *sepia* Hull and *paradoxa* Jaenicke have an acutely conical face like *paravilla* Painter. *Neodiplocampta* appears to be more closely related, perhaps, to *Paravilla*. *Dipalta* Schiner, with its exaggerated sigmoid second vein and its pattern of spots and acutely conical face, also seems related to *Neodiplocampta* but may be a separate offshoot from *Paravilla*; both probably arose from *Chrysanthrax*-like ancestry. No life histories are known for any of these genera and species except *Dipalta* which is known to find its host in mymeleonid larvae. 1/2

At the time Curran (1934) erected the genus, he also included the *paradoxa* Jaenicke, which was originally described under the genus *Anthrax* Scopoli. This is one of the species for which Painter (1962) was unable to locate a type individual in his careful study of bee flies in European museums. It was presumed by him to be lost or destroyed. For this reason we set up a neotype representative which we are placing in the collections of the U.S. National Museum of Natural History, Washington.

Key to the Species of *Neodiplocampta* Curran and to Related Genera

1. Second vein much contorted and kinked near the apex. 3 submarginal cells present 2
- Only 2 submarginal cells present, or if 3 are present, there is only a shallow wavelike kink in the second vein 3
2. Emission of posterior branch of second vein lies before apical loop and well before emission point of anterior branch of third vein. Loop of second vein very deep, conspicuous, vein thickened. Wing widened apically, narrowed basally. Face very bluntly produced, and third antennal segment onion-shaped with long, quite slender style. Proboscis short. Small, blackish flies. First posterior cell much longer than the first basal cell *Diplocampta* Roeder
- Emission point of posterior branch of second vein fixed within loop. Apical part of loop or kink quite deep also. Wing not expanded apically or narrowed basally, but with characteristic pattern or conspicuous,

- blotchlike spots on all cross veins and vein loops and furcations. Face long and conically produced *Dipalta* Schiner
3. Second vein with strongly developed loop near apex in form of reversed S-shaped figure 4
- Second vein with very weakly developed bend near apex 12
4. Whole wing in males deeply tinged with sepia brown and wings widened in both sexes, especially in male. Basal part of second vein loop rectangular, with short spur vein extended backward. Second vein loop very deep and conspicuous. Abdomen of male lengthened. Females with wing widened but less than in males; Abdomen not lengthened. (S. Brasil) Subgenus: *Agitonia* *sepia* Hull
- Wing with only a complement of characteristic semi-isolated spots situated about cross veins, wing bases, and furcations. Wing not widened in either sex 5
5. Conspicuous, dark brown spot present in middle of (second) posterior cell which in oblique light is revealed as part of darker pattern of spots of wing. Face strongly produced and conical contact of discal and fourth posterior cells approximately equal length of anterior cross vein 6
- Middle of first posterior cell nearly or quite hyaline or at most only lightly tinged with brown. Contact of discal cell and fourth posterior cells as long or even longer than anterior cross vein. Face bluntly conical 8
6. Femora rather light orange, tibia likewise. Loop of second vein normal (Honduras) *paradoxa* Jaenicke subsp. *ixta*, n. subsp.
- Femora blackish or dark brown, at least basally 7
7. Loop of second vein strong on both limbs. (Mexico, Guatemala) *paradoxa* Jaenicke
- Loop of second vein weak on basal limb, pinched, with rectangular apex on outer limb. (Guatemala) *paradoxa* Jaenicke subsp. *azteca* n. subsp.
8. Whole wing distinctly tinged with brown or yellowish brown; no heavy pattern of brown on basal part of sigmoid second vein loop; second part of loop quite deep. Brown pattern not bisecting first submarginal cell (Venezuela, Brazil) *brasiliiana* n. sp.
- Posterior border of wing hyaline or nearly so and always extending up across middle of first submarginal cell 9
9. Abdomen yellow or orange in ground color, with sometimes an obscure, diffuse middle spot of black in first, second and part of third terga 10
- Abdomen blackish in ground color. Face a little more conical and also produced; contact of discal and first posterior cell a little greater (S. Brazil) *garaguaya* n. sp.
10. Abdomen orange with sometimes a medial black ground color vitta of obscure and varying extent; tomentum of abdomen always quite pale straw yellow, but often also with posterior band of black pile on the fourth tergum, and there may be a few black hairs posteriorly on the second and third terga 11
- Abdomen orange in ground color but the scaliform pile of tomentum is a deep reddish-golden color or deep egg yellow. Some blackish color sometimes present in the middle of first and second segments (Texas, Florida, New Mexico) *miranda* n. sp.

11. Front and face antenna without any black hair whatever; lower half of front light red in ground color and matching facial cone. First 2 segments of antenna very pale yellow indeed. Pleuron entirely light orange brown. (Cal.) *mirella* n. sp.
— Front and face with extensive, erect, stiff black pile. Entire front shining black. First 2 antennal segments orange brown with much black pile. Mesopleuron and metapleuron dark blackish brown. (Texas to Cal.)
..... *mira* Coquillett
12. Second basal cell wholly dark blackish, except for single subapical clear spot; clear area of first submarginal cell restricted to single apical spot, with respect to basal half of this cell. Style of antenna filiform (Arizona; Sonora) *astrella* n. sp.
— Wing not heavily colored with blackish on anterior half and not with such spots 13
13. Wing with 3 submarginal cells (Bahamas) *painteri* n. sp.
— Only 2 submarginal cells 14
14. Face sharply conical. (S. Brazil) *laurella* n. sp.
— Face relatively blunt 15
15. Pile at base of scutellum and some of the pile on basal $\frac{1}{2}$ of abdomen distinctly whitish. (P. Rico, Jamaica) *roederi* Curran
— Pile of scutellum and abdomen entirely light yellowish brown; pile of shining black abdomen tends to be banded. (Vera Cruz, Jalapa)
..... *krombeini* n. sp.

Ncodiplocampta paradoxa Jaennicke

paradoxa Jaennicke, Abhandl Senckenb. Gesellsch., Vol. 6, p. 339 (1867)

This is a black species with nearly hyaline wings. These flies are readily distinguished by the isolated, distinct, blackish-brown spot in the middle of the first posterior cell; it is the only species so distinguished.

Head: The head is black, except on the lower part of the unusually sharp and protruding genofacial cone. The pile consists of rather dense, appressed, comparatively broad brownish-yellow scales; these are also present, rather densely on the occiput. On the front vertex, there are numerous, erect, fine, stiff black hairs. On the facial cone, especially on the lower part, there are some appressed black hairs that form a very conspicuous marginal fringe. This fringe extends from the apex on backward toward the lower gena. Sides of genofacial area, sometimes, yellowish brown. The antenna has the first segment dark brown, the remaining segments blackish, occasionally brownish yellow. The proboscis is black, the brownish-black labellum extends beyond the facial cone by half its length.

Thorax: The thorax is dully shining black with faint gray pollen; except where denuded it is densely covered with slender brownish-yellow, appressed, flattened hairs, scales or tomentum. This includes the scutellum. The hairs and bristly hairs in front of the scutellum are reddish yellow. Most of the bristles on the margin of the scutellum are reddish golden; they may be all of such color, or there may be a few blackish ones present. Pleuron is blackish with gray pollen.

Legs: The legs have the femora rather dark yellowish brown. The basal half of the anterior femora is often blackish. The tibiae are nearly the same color as

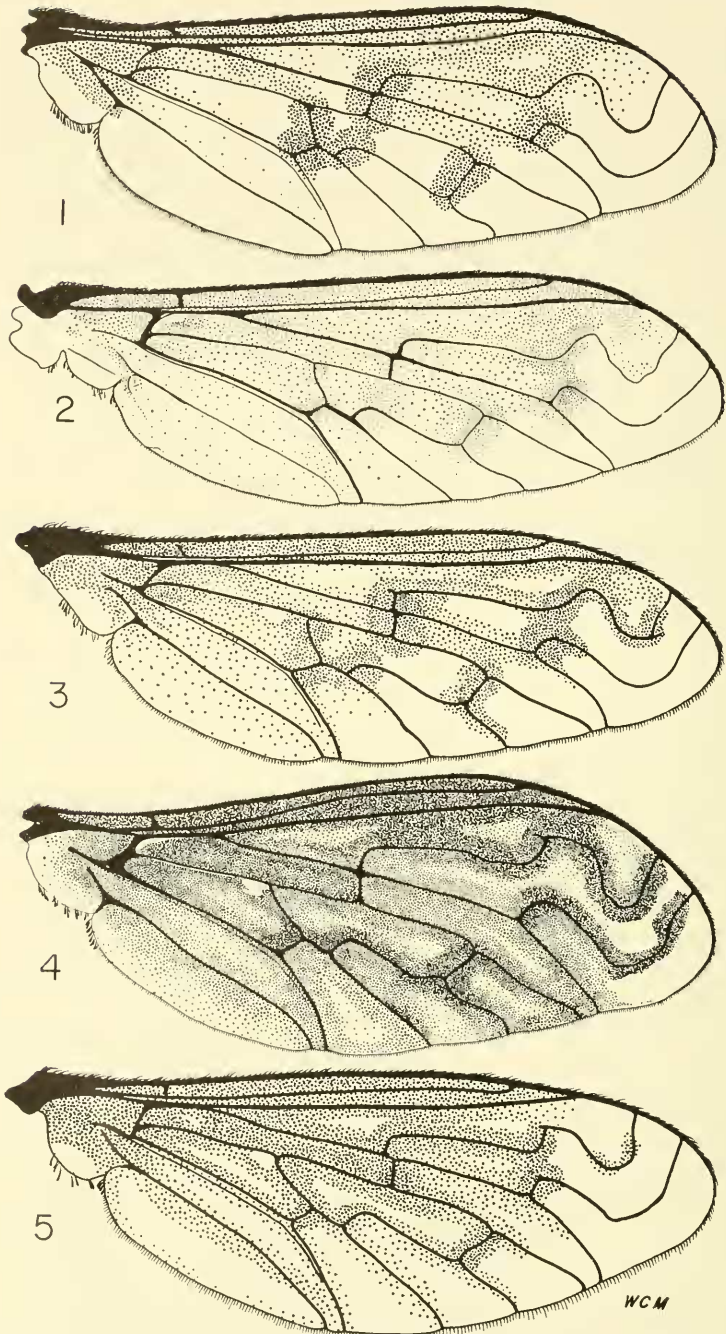


Fig. 1-5, *Neodiplocampta* spp. 1, *N. mira* Coquillett. 2, *N. mirella* n. sp. 3, *N. miranda* n. sp. 4, male *N. sepia* Hull. 5, female *N. sepia* Hull.

the femora, but the tarsi are almost blackish. The scales of the legs are pale brownish yellow, all the bristles are black.

Wings: The wings are relatively wide, but not conspicuously so. They are distinctly wider than species like *laurella*, n. sp. The wing is almost hyaline with only a faint grayish color. There is a distinct isolated blackish-brown spot in the middle of the posterior cell, which is very characteristic. The sigmoid loop of the second vein is strong and distinct, both distally and proximally, and the loop is stronger in males than in females. The loop may be entirely margined with dark brown, with an extra spot on the outer part of the anterior branch of the third vein, or instead there may be only 1 or 2 small isolated spots on the sigmoid loop. The costal cell, and the subcostal cell and basal part and the expanded part of the marginal cell are rather dark brown in contrast to many species of this genus, where they are yellowish or reddish.

Abdomen: Black becoming dark brown on the fifth and sixth terga, and light coffee brown on the seventh and eighth terga and the genitalia. Base of epandrium blackish. In the females the eighth tergum is shining black.

Length: Body, 8-9.5 mm; wing, 7-9 mm.

Distribution: The following material is from the Painter Collection and was collected by the late R. H. Painter or Dr. and Mrs. Painter unless indicated otherwise. MEXICO: 2 ♂, Antiqua Morelos, July 29, 1961 and July 27, 1962; 2 ♀, Antiqua Morelos, July 27, 1962 and April 6, 1966, 1 ♂, Mazatlan, Sin, August 15, 1962; 7 ♀, Mazatlan, Sin, July 18, 1959, August 17, 1959, and August 15, 1962; 2 ♂, Mazanillo, Col., August 26, 1962; 4 ♀, Mazanillo, Col., August 26, 1962; 4 ♂, Cd. Mante, July 27, 28 and 29, 1962; 1 ♀, Cd. Mante, July 29, 1962; 1 ♀, Acapulco, June 24, 1935; 2 ♂, Xilitla June 30, 1962; 2 ♂, Vera Cruz, July 10, 1935; 2 ♂, Cd. Victoria, July 26, 1962; 5 ♂, Tamazunchale, August 1, 1962; 1 ♂, Sinaloa, September 1, 1962; 1 ♂, El Salto, July 27, 1962; 1 ♂, Tuxtla Gutierrez, May 3, 1959. 1 ♀, Progress, Tucantan, no date, collected by Fred Knab. 1 ♀, Torontera Rab., no date, collected by Townsend. 1 ♀, Palmira, August 1, 1962, collected by F. M. Hull. HONDURAS: 7 ♂, Puerto Castilla, April 6, 9, and 20 and May 1 and 2, 1926, 9 ♀, Puerto Castilla, April 4, 7, and 9 and May 1, 1962. NICARAGUA: 1 ♂, Managua, September 4, 1967. GUATEMALA: 2 ♂, Guatemala City, September 10, 1967; 1 ♂, Iztapa, August 6, 1967. PANAMA: 1 ♂, Taboga, October, 1946.

Neodiplocampta (Agitonia) sepia Hull

sepia Hull. Entomological News, Vol. 77, No. 8, p. 225 October, 1966

A large species with large, quite broad wings which are almost wholly sepia save for faint hyaline areas in the marginal and posterior cells.

Head: Brownish black, the pile of front, face and antennae black with appressed, scattered, brownish-yellow scales intermixed on face and front. First 2 antennal segments brownish yellow, third blackish, its base short conical, the style long and slender. Occipital pile appressed, scanty, scalelike yellowish. Face conical, with a bare, yellow brown strip from each antenna down the sides; proboscis extends barely beyond apex of face. Thorax black, feebly shining, the pleuron more brownish. Pile scanty, yellowish appressed with additional scattered fine, erect black hairs; anterior collar of pile, long, dense, brownish yellow.

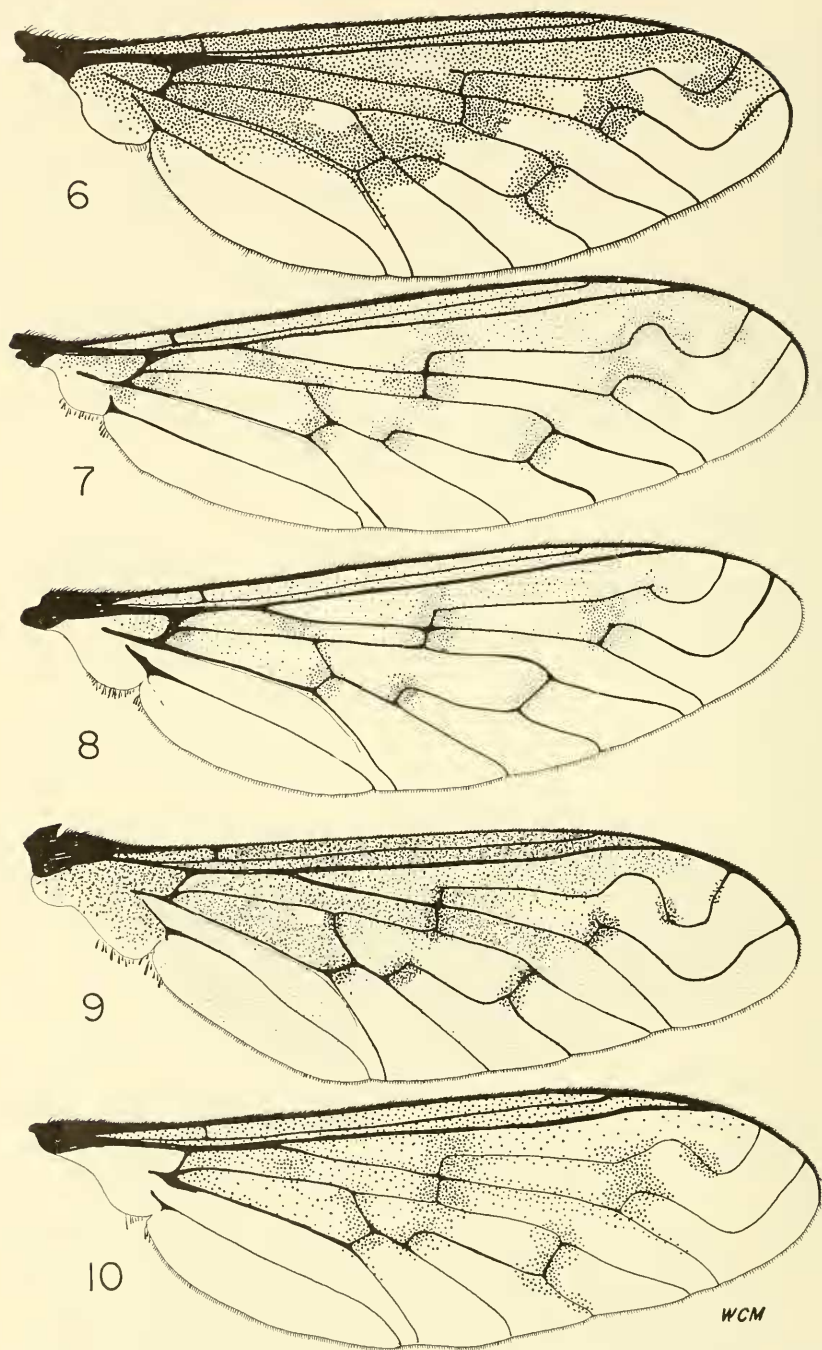


Fig. 6–10, *Neodiplocampta* spp. 6, *N. astrella* n. sp. 7, *N. garaguaya* n. sp. 8, *N. laurella* n. sp. 9, *N. brasiliana* Hull. 10, *N. krombeini* n. sp.

Notopleuron with black, and upper mesopleuron with longer, bristly, yellow pile; metapleural pile black. Legs dark brown, the bristles black, the femora with some fine, appressed black pile. Wings exceptionally broad, almost wholly dark sepia, the middle of discal, posterior and more particularly the submarginal cells faintly subhyaline; second vein and anterior branch of third more strongly contorted than in type-species; alula reduced. Abdomen nearly twice as long as type-species, black with pile like mesonotum.

Type: A male, and 1 paratype female. Nova Teutonia. Brazil, Dec.-Feb., 1964-65. (Fritz Plaumann). In collection of author. Because of its aberrant and atypical form it may be assigned to a new subgenus: *Agitonia*, under *Neodiplocampta*.

Since the publication of the above description, two female bombyliids resembling *sepia* and also collected in Nova Teutonia, Brazil have been added to the senior author's collection. Both these individuals we feel are sufficiently like *sepia* to be placed in that species.

Neodiplocampta krombeini Hull and Martin, new species

A relatively small species distinguished by the bluntly produced face. The thorax and abdomen are black. The abdomen tends to have a banded appearance which may be due to the tenacity with which the straw colored scales, sometimes reddish toward the apex of the abdomen, hold fast to the basal margin of the terga, and may also be due to a considerable amount of sub-appressed or even flat-appressed, fine black bristly hairs along the posterior margins of the terga.

Head: The front is black and has dense, erect, bristly hairs and moderately abundant, appressed brownish-orange scales. The black color of the front extends rather broadly below the antenna in the middle of the facial cone, to the apex of the cone. The lower lateral surface of the facial cone is brownish orange. This color extends onward, down upon the narrow gena, and it is continued as a very narrow rim around the posterior part of the oral opening. The upper sides of the facial cone contains many brownish-orange scales, and some extremely fine black hairs. The first segment of the antenna is brownish orange, about $2\frac{1}{2}$ times as long as the second segment. The second and third segments are entirely black and the bristly pile of the antenna is entirely black. Proboscis black; the labellum brown and barely extending beyond the apex of the face. The occiput is black, with gray pollen, with dense, pale, slender, brownish-yellow scales.

Thorax: The thorax is dully shining black with faint pollen of a reddish-brown color. It bears moderately dense, fine, appressed, pale brownish-yellow scalelike tomentum. There are a few black hairs before the scutellum; lateral thoracic pile golden. Margin of the black scutellum with 4 or 5 pairs of long slender, black bristles and a few other black hairs basally. Pleuron blackish with gray pollen.

Legs: The femora vary from brownish yellow to light brown. The basal $\frac{1}{2}$ of the anterior pair, rather blackish. The tibiae are darker and the tarsi blackish. Scales of the femora, light straw yellow, bristles of the legs black.

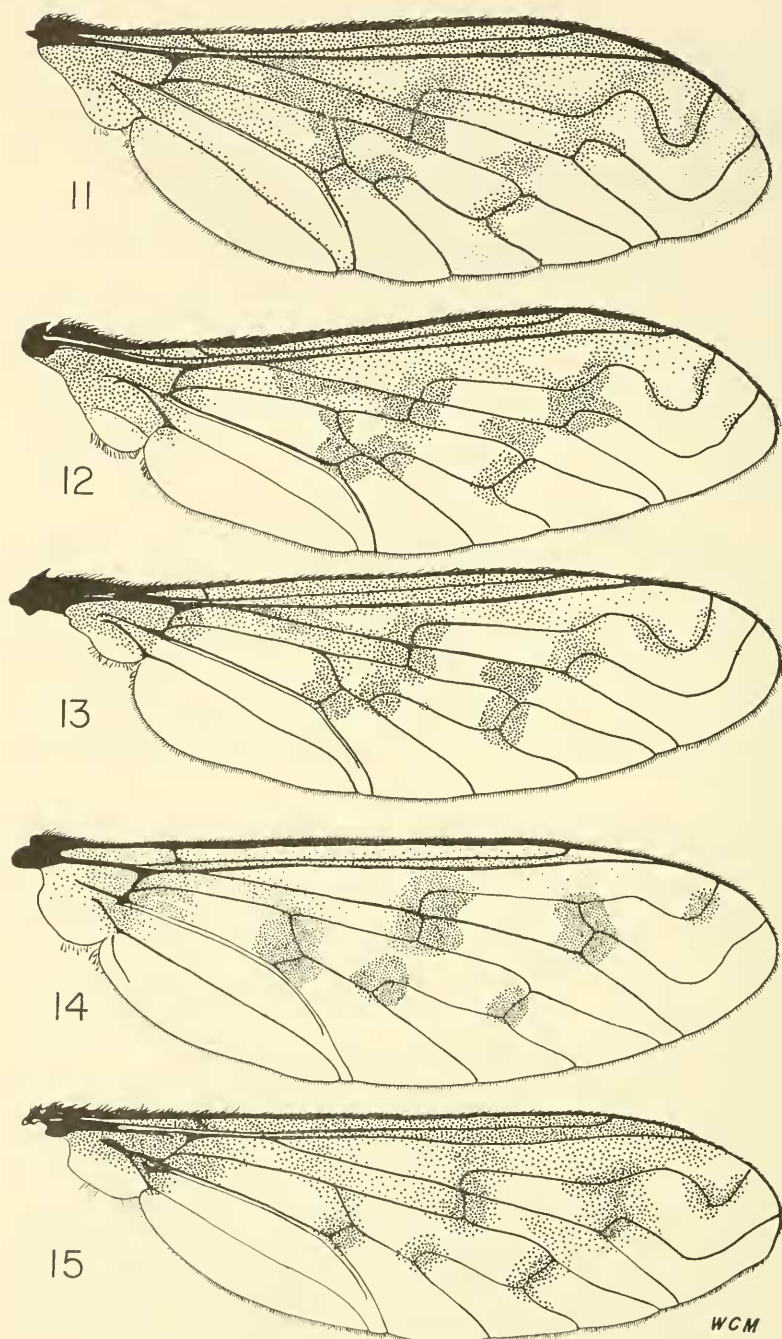


Fig. 11-15, *Neodiplocampta* spp. 11-13, *N. paradoxa* Jaennicke. 14, *N. painteri* n. sp. 15, *N. roederi* Curran.

Wings: The wings are sub-hyaline, faintly tinged with brown villi, with a distinct pattern of sepia spots. The costal and subcostal cells are brown, and distinctly darker than most species. In an oblique light, the middle portions of the second and third basal cells and the posterior $\frac{1}{2}$ of the basal $\frac{1}{2}$ of the marginal cell is filled with bright orange villi, and this color continues anteriorly around the rather deep loop of the second vein. The whole of the first sub-marginal cell, except where interrupted by the sepia spot, is also filled with these orange villi. Such villi are present more faintly on the rest of the wing. Whole basal $\frac{1}{2}$ of the first posterior cell with sepia.

Abdomen: Black and shining in ground color, and with a tendency to a banded appearance, due to fine, black bristly pile on the posterior margins of the terga. In the holotype there are more or less oval, orange spots intruding laterally upon the black ground color in the middle of the terga. This is not true of the allotype female. Genitalia orange brown and in the female, shining black.

Length: Body, 6-8 mm; wing, 6-8 mm.

Distribution: Holotype, a male, Vera Cruz, Mexico, near Tierro, Colo. July 15, 1932, collected by Hobart Smith. Allotype female, Jalapa, Vera Cruz, August 19, 1963, collected by R. H. and E. M. Painter and in the Painter Collection.

Named in honor of Dr. Karl Krombein, Department of Entomology, United States National Museum.

Neodiplocampta brasiliiana Hull and Martin, new species

A black species, distinguished by the uniform tinge, a pale reddish brown over the whole of the wing. The basic color anterior to the fourth vein and likewise in the second basal cell and basal $\frac{1}{2}$ of discal cell is only slightly darker than the remainder of the wing. The usual pattern of 6 or 7 sepia spots are present, but they too, are comparatively pale and are more than ordinarily diffuse. The loop of the second vein is deep. The abdomen is black with more or less isolated, oval, small, brownish spots on sides of the terga.

Head: The vertex and all the front except immediately lateral to the antenna is black. The lower middle part of the front is faintly shining and there is brownish, orange pollen. The upper $\frac{1}{2}$ of the front is largely opaque black, but there is some dark brown pollen encircling the ocelli. The facial cone is a rather rusty, orange brown, lighter on the lower $\frac{1}{2}$, and extending up to the upper margin of the antenna. Laterally the facial cone bears scattered, appressed, brownish yellow, flattened hair. Toward the margin of the cone, and more abundant on the upper middle portion of the cone, there are sub-appressed, short, stiff, black hairs. On the whole of the front, there are erect, longer black hairs, but they are not abundant. First 2 segments of antenna light, brownish orange, almost yellow; third segment blackish. Pile of antenna black and bristly. First segment 3 times as long as the second. The proboscis extends a little beyond the apex of the facial cone. It is black, the labellum may be brown. Occiput black, except below; it bears a faint gray pollen and scattered, appressed, black-yellow scales.

Thorax: The thorax is black, including most of the scutellum, and its posterior

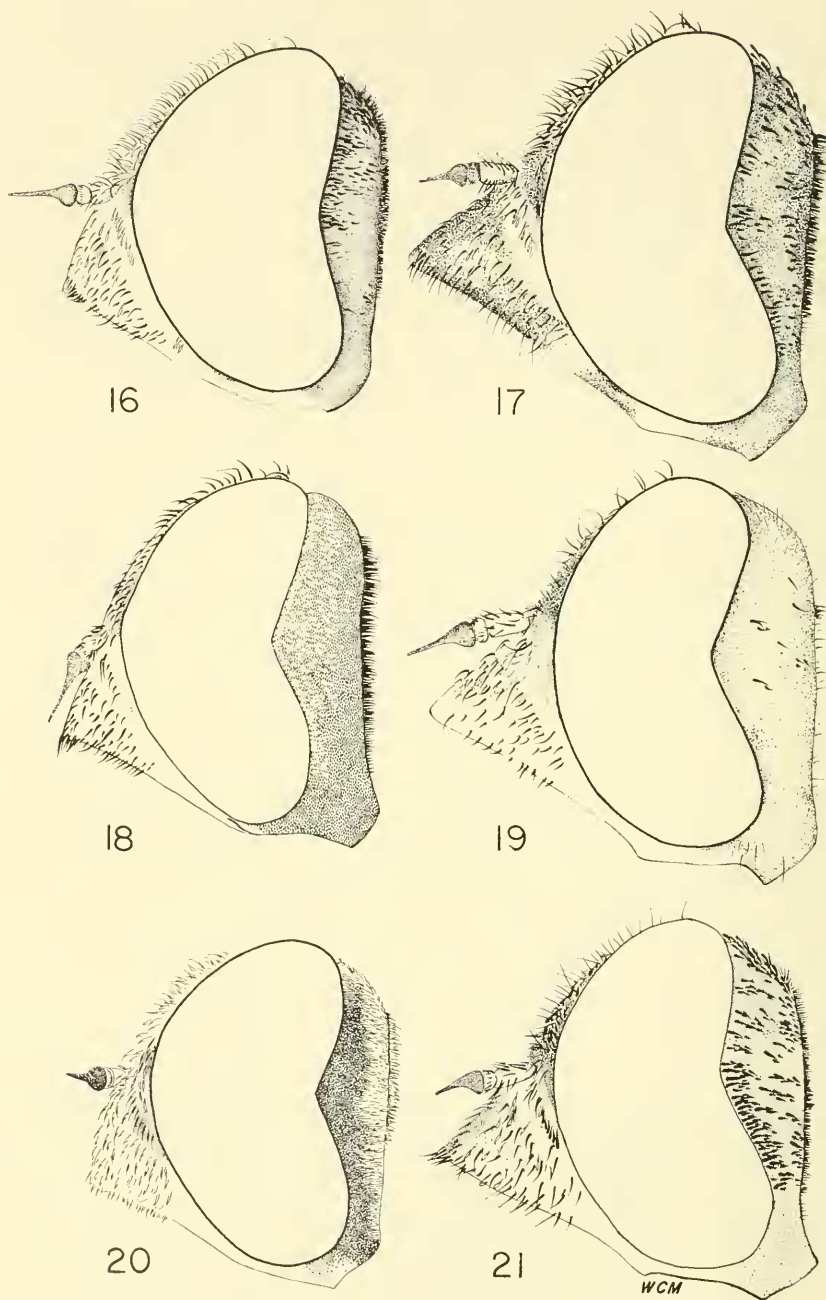


Fig. 16-21, *Neodiplocampta* spp. 16, *N. painteri* n. sp. 17, *N. sepia* Hull. 18, *N. miranda* n. sp. 19, *N. brasiliiana* n. sp. 20, *N. mirella* n. sp. 21, *N. laurella* n. sp.

border is diffusely and obscurely reddish brown. The humeri are the same color. The dorsum of the mesonotum is covered with light reddish-brown pollen and scattered tomentum of the same color, but lighter. In material at hand the thorax is largely denuded. Pleuron a light-coffee-brown with centers of the sclerites, diffusely darker, and the pollen quite pale ochre yellow.

Legs: The legs are light brownish orange with pale brownish scales and black bristles.

Wings: Wings with characteristic light uniform, pale, reddish brown tint. They are darker and more brownish yellow on the anterior $\frac{1}{2}$, as far as the beginning of the loop of the second vein. This sigmoid loop is rather deep and has 2 small diffuse brown spots on the outer part of the loop. In 1 individual there is a short, spur vein directed upward and backward from the anterior branch of the third vein. The contact of the discal and fourth posterior cell is distinctly longer than the anterior cross vein. The apex of the discal cell is swollen out below.

Abdomen: Badly denuded in both individuals; ground color, shining black, but laterally on each tergum there is a small, oval, brownish-orange spot, extending inward. The curled-over sides of the abdomen are entirely of this color, and the spot of this color on the first tergum extends narrowly across the whole posterior margin. The posterior margin of the remaining terga are quite linearly reddish brown. The traces of pile left show the presence of appressed light, yellow tomentum, and a few scattered, fine, sub-appressed, black-bristly hairs. Male genitalia cherry red at the base, but orange distally.

Length: Body, 5.5–11 mm; wing, 5–8 mm.

Distribution: Holotype, a male from Brazil, collected at 20 km. N Sao Joao da Alianca, Go., April 14th 1956. Collected by F. S. Truxal. Type in the collection of the Los Angeles County Museum. One paratype male from Akuriman, Gran Sahana, Venezuela, November–December, 1940, collected by P. J. Anduze.

Neodiplocampta garaguaya Hull and Martin, new species

Flies of medium size very similar to *laurella* n. sp., but with the face less conically produced and with the loop of the second vein double and S-shaped and the outer loop bears a brown spot. Moreover the first antennal segment is shorter in length and the ground color of the scutellum is reddish brown, except basally.

Head: The front is feebly shining black and the middle of the facial cone is narrowly blackish down the middle; sides of facial cone are light orange brown, extending back over the gena to the occiput. All of these areas, except the lower, narrow portion of the gena, are rather densely covered with appressed, pale, brownish ochre colored scales and also erect, very fine, stiff black hairs. The first segment of the antenna is brownish yellow, second segment reddish brown and the third segment blackish. The proboscis is black basally with the labellum light yellowish brown. It scarcely extends beyond the apex of the facial cone. Occiput black, feebly shining gray pollinose with dense, appressed, ochre-yellow scales.

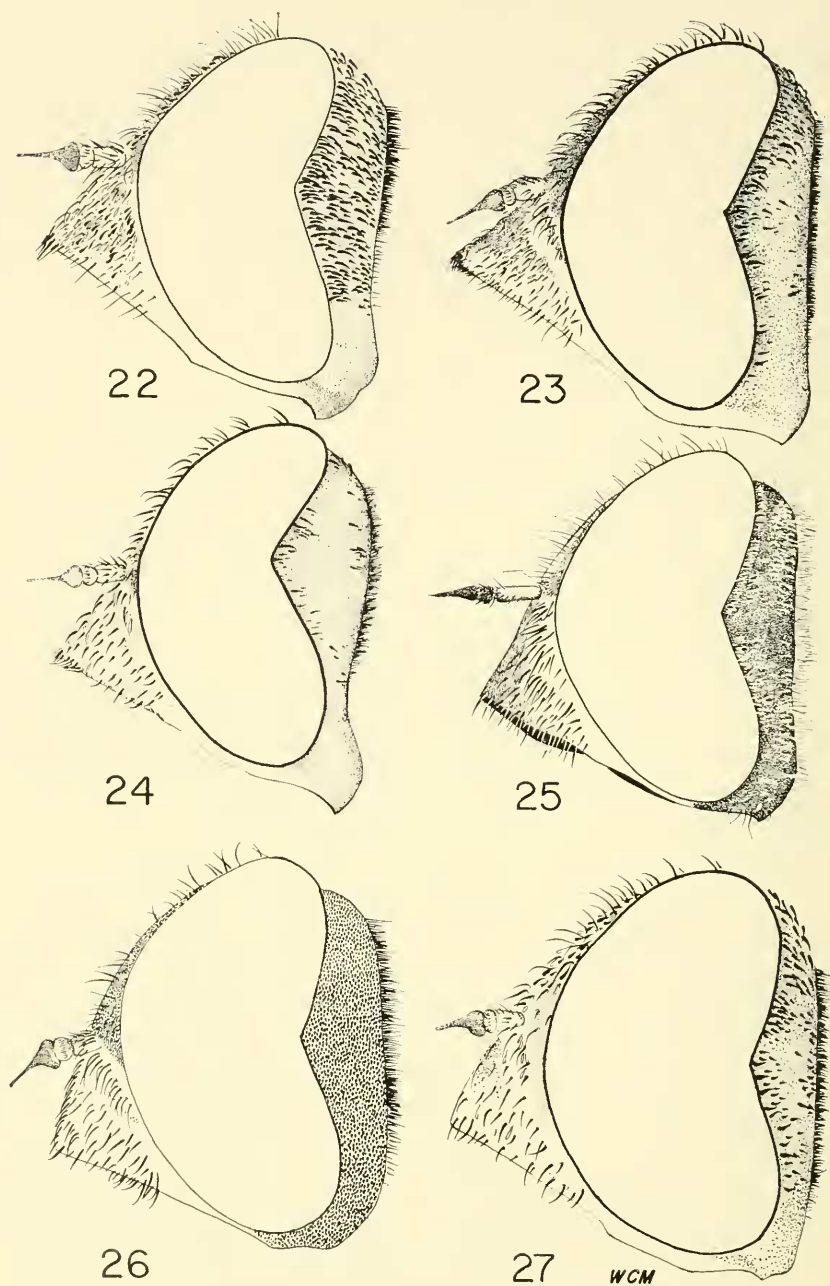


Fig. 22-27, *Neodiplocamptus* spp. 22, *N. garaguaya* n. sp. 23, *N. paradoxa* Jaennicke. 24, *N. astrella* n. sp. 25, *N. roederi* Curran. 26, *N. mira* Coquillett. 27, *N. krombeini* n. sp.

Thorax: Mesonotum dully shining with a sparse reddish brown pollen and dense appressed, pale reddish ochre colored scales and all bristles reddish. On the notopleuron there are 5 or 6 quite slender, black, non-bristly hairs. The scutellum is similar to the mesonotum, but the outer margin is largely reddish brown, and all the bristles are reddish. Pleuron entirely bright coffee brown.

Legs: Femora and tibiae are entirely light brownish yellow. The appressed scales are quite pale brownish yellow, and the bristles are entirely black. The tarsi are a little darker.

Wings: The wings are slender, not quite hyaline, but with a pale reddish tinge. There are 7, diffuse, sepia brown spots. The loop of the second vein is moderately deep and S-shaped; on it there are 2 brown spots, one proximal and the other distal.

Abdomen: Black feebly shining, with dense, appressed brownish ochre colored scales. There are a few fine black hairs along the posterior margins of the third to sixth segments. They are a little more in evidence laterally. Seventh segment shining black and nearly bare.

Length: Body, 7 mm; wing, 8 mm.

Distribution: Holotype, a female, Rio Caraguaiá, Brazil. March 1953. Collected by Fritz Plaumann. Type in Hull Collection.

Neodiplocampta miranda Hull and Martin, new species

These are flies which are distinguished by the bright brownish-orange color of the abdomen in which there may be a triangle of black in the middle of the second segment and all of the first segment black except the corners. Also the appressed flattened pile or tomentum of the abdomen is almost entirely of a reddish-gold color. Related to *mira* Coquillett in which the pile is a pale brown yellow or clay yellow and the face more blunt.

Head: The front and vertex are black and shining with numerous, broad, appressed, bright orange scales. There are numerous erect, stiff black hairs. The face is entirely light brownish orange in color, conical, but not unusually long. The upper margin of the cone and the lower genofacial margin form nearly a rectangle. They have only a few scattered yellow scales, mostly located near the eye margin. There are appressed slender black hairs, rather more numerous than the yellow scales and these form a marginal fringe along the anterior cone. The antenna is brownish orange on the first segment, nearly 3 times as long as the second segment. Proboscis barely longer than the facial cone, shining black in color, with the labellum dark brown. Occiput shining black with faint gray pollen and dense appressed slender pale brownish-yellow scales.

Thorax: Black, dully shining and the mesonotum and scutellum densely covered with appressed brownish-yellow, slender scales or tomentum. Also the anterior collar of the mesonotum is dense, long, erect, and pale yellow. There are a very few fine black hairs in front of the scutellum. All of the bristles of the thorax are reddish gold. Pleuron is black with gray pollen.

Legs: They are rather deep yellow with scales of the same color. The tarsi are slightly darker, all the bristles are black.

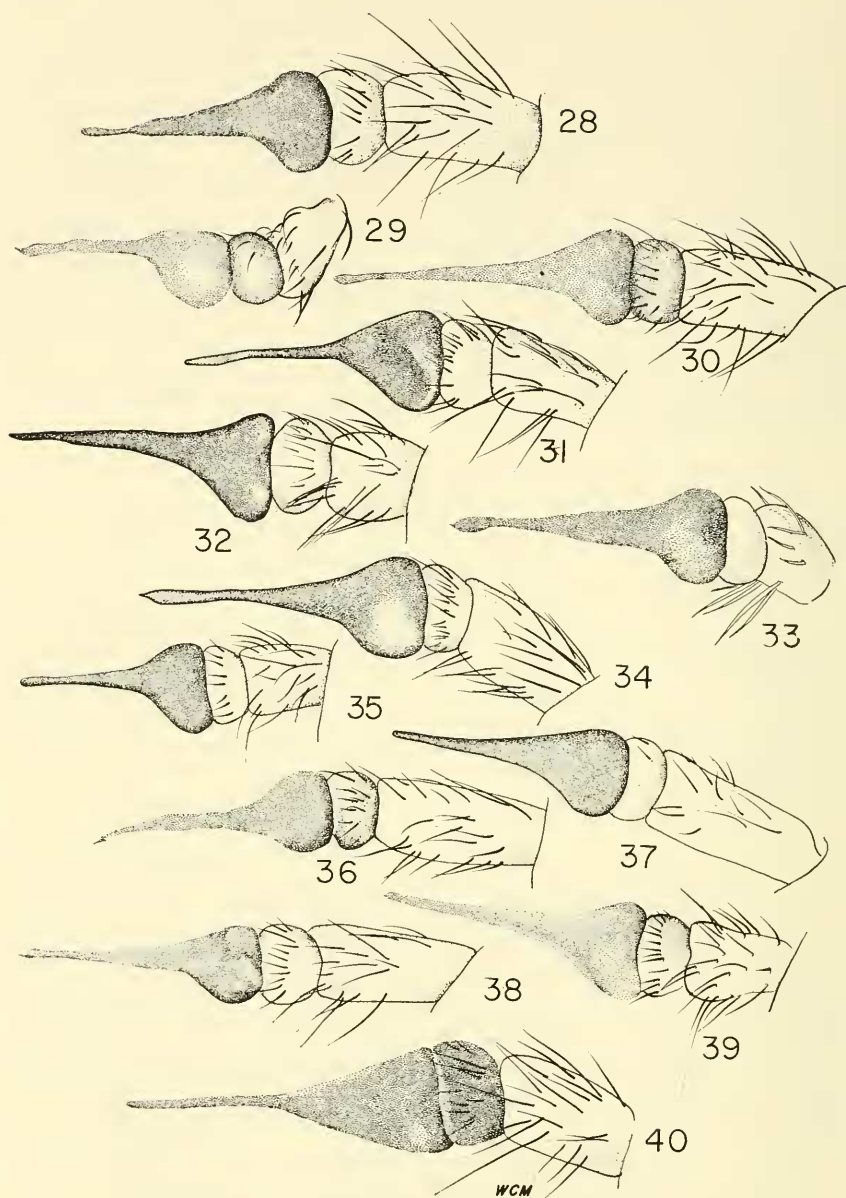


Fig. 28-40, *Neodiplocampta* spp. 28, *N. garaguaya* n. sp. 29, *N. astrella* n. sp. 30, *N. sepia* Hull. 31, *N. paradoxa* Jaennicke. 32, *N. mira* Coquillett. 33, *N. mirella* n. sp. 34, *N. miranda* n. sp. 35, *N. krombeini* n. sp. 36, *N. sepia* Hull. 37, *N. brasiliana* n. sp. 38, *N. laurella* n. sp. 39, *N. painteri* n. sp. 40, *N. roederi* Curran.

Wings: The wings are a pale brownish hyaline, and the brown pattern of spots are light reddish brown, costal and subcostal cells a brownish yellow. The sigmoid loop of the second vein is strong without being usually deep. Both loops are about equally strong. The basal section may or may not have a brown spot. The first posterior cell is tinged with brown on its entire basal $\frac{1}{2}$, but lacks the isolated spot so characteristic of *paradoxa* (Jaenicke).

Abdomen: Bright brownish orange in color and usually with a triangle of black in the middle of the second segment and occupying all of the first segment except the corners. There are a few fine scattered, stiff black hairs on the posterior margins of the posterior terga.

Length: Body, 6.5–11 mm; wing, 6–10 mm.

Distribution: Holotype, a male, Ft. Lauderdale Fla., May 18, 1928, collected by D. M. Bates. Allotype, a female, North Palm Beach, Fla., May 18, 1964, collected by Peter Hocking; Paratypes: 1 ♀, Coral Gables, Fla., June 17, 1959, collected by D. Bergh; 1 ♂; St. Augustine, Fla., No date, Painter collection;

TEXAS: 2 ♂, Rio Blanco Tex., August 16, 1959; 1 ♂, 23 mi. W of Van Horn, Tex., Aug., 14, 1959; 1 ♂, Victoria, Texas, Aug. 1, 1925, R. H. Painter; 1 ♀, Pecos, Texas, Aug. 4, 1954, F. M. Hull; 1 ♂, Kingsville, Texas, July 17, 1921; 1 ♂, 20 mi. N of Laredo, Texas, May 30, 1964, F. M. and M. C. Hull; 1 ♀, 3 mi. W of Neuces R. Highway 85, Texas, May 31, 1964, F. M. Hull; 1 ♂, 7 mi. S of Beeville, Texas, June 2, 1964, F. M. Hull; 2 ♂, 2 mi. E of Neuces R. Highway 85, Texas, May 31, 1964, F. M. Hull; 2 ♂, 7 mi. S of Beeville, Texas, June 2, 1964, F. M. Hull; 2 ♀, NE of San Ygnacio, Texas, May 24, 1964, F. M. Hull; 2 ♂, 1 ♀, Austin, Texas, October 2, 1922, R. H. Painter; 1 ♂, Austin, Texas, July 17, 1922, R. H. Painter; 2 ♂, Victoria, Texas, Aug. 1, 1925, R. H. Painter; 1 ♂, 1 ♀, Kingsville, Texas, June 7, 1920, F. M. Hull; 1 ♂, 1 ♀, Roosevelt, Texas, Aug. 27, 1924, R. H. Painter; 2 ♂, Roosevelt, Texas, Aug. 14, 1924, R. H. Painter; 1 ♂, 1 ♀, San Saba, Texas, Aug. 25, 1921, R. H. Painter; 1 ♂, 2 ♀, Uvalde, Texas, Oct. 5, 1933, A. W. Lindquist; 2 ♂, 6 mi. NW of San Antonio, Texas, Aug. 30, 1960, G. P. Waldbauer; 1 ♀, Ranger, Texas, July 18, 1931, R. H. Painter; 1 ♂, Palo Pinto Co. Texas, Sept. 9, 1958, R. H. Painter; 1 ♂, San Angelo, Texas, Sept. 13, 1921, R. H. Painter; 1 ♂, Marble Falls, Texas, Aug. 9, 1939, R. H. Painter; 1 ♂, 9 mi. W of Sierra Blanca, Texas, Sept. 5, 1958, R. H. Painter. MEXICO: 1 ♀, 16 mi. NE of Cd. Obregon Son., Mexico, April 23, 1961, R. H. Painter; 1 ♀, 24 mi. N of Chilpancingo Gro., Mexico, Aug. 31, 1959, R. H. Painter; 1 ♂, 11 mi. S of Iguala, Gro, Mexico, Aug. 31, 1959, 1 ♂, 3 ♀, 19 mi. S of Matehuala, Mexico, July 25, 1967, R. H. and E. M. Painter; 1 ♂, 10 mi. N of Acapulco, Mexico, June 30, 1932, Smith; 1 ♂, 1 ♀, 84 mi. S of Culiacan, Sin., Mexico, Aug. 16, 1959, R. H. Painter; 1 ♂, 51 mi. NE of Managua, Nicaragua, Sept. 4, 1967, R. H. and E. M. Painter; 1 ♀, 34 mi. W of Managua, Sept. 3, 1967, R. H. and E. M. Painter. ARIZONA: 1 ♀, Tonto N. Mon., Ariz., July 26, 1932, R. H. Painter. CALIFORNIA: 1 ♂, 13 mi. W of Desert Center, California, September 16, 1964, F. M. and M. C. Hull.

Neodiplocampta mirella Hull and Martin, new species

A pale orange species related to *mira* Coquillett. The wing is similar with some difference in the shape of the discal cell. It is readily

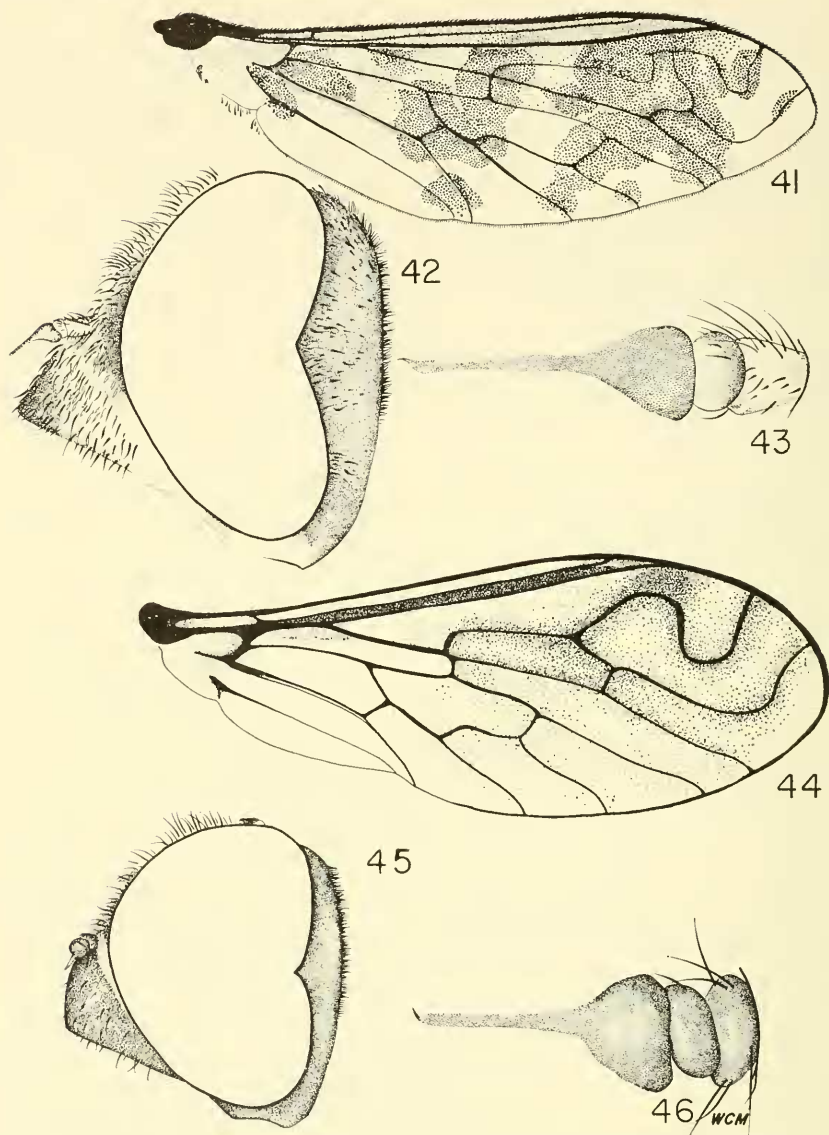


Fig. 41-43, *Dipalta serpentina* Osten Sacken. 41, wing. 42, head. 43, antenna. 44-46, *Diplocampta singularis* Schiner. 44, wing. 45, head. 46, antenna.

distinguished from *mira* by the absence of black hairs on the front, and face; other distinguishing characters are the 2 antenna. Pale yellow basal segments of the antenna and also the presence of a large, medio-apical, yellow-brown spot on the scutellum and the uniformly, pale

brownish-orange pleuron. Moreover while there is a narrow blackish stripe in the middle of the first, second and third terga, there is no black pile upon the abdomen.

Head: Only the upper third of the front is blackish, all the remainder being light red in ground color. The front has rather dense, opaque, pale ochre colored scales, and abundant, erect, reddish-gold bristly hairs. The whole of the facial cone is orange in color with scalelike tomentum, similar to the front. Pile of antenna is reddish golden, the third segment is black with the base a little reddish below. The occiput and proboscis is similar to *mira*.

Thorax: Thorax with mesonotum black, bearing dense appressed pale brownish-ochre colored tomentum. The humerus, postalar callosities and the middle of the scutellum on the apical $\frac{1}{2}$ is light brownish orange. The entire pleuron is pale brownish ochre in color. The mesonotum has a reddish pollen on the ground color. There are no black hairs or bristles on the thorax.

Legs: The femora are pale brownish yellow with very pale straw-colored scales. The tibiae are also pale in color, with the apex of anterior tibia obscurely smoky. The tarsi are dark brown; bristles of legs black.

Wings: Comparatively broad compared to such species as *laurella*. The costal and subcostal cells are rather deep reddish yellow. There is similar color, slightly paler in the marginal and first basal cells. Actually the whole wing is faintly tinged with reddish villi and in this respect it is similar to *mira* and the loops of the second vein are similar and also deep. The basal $\frac{1}{2}$ of the first posterior cell uniformly tinged with reddish color, except on each side of the crossvein, there is the deep red which is part of the pattern of spots.

Abdomen: Light brownish orange with dense, pale, straw-colored, appressed tomentum; along the posterior margins of the terga there is an appressed fringe of pale golden, bristly hairs. While there are no black hair or bristles anywhere on the abdomen, there is a series of small, connected black triangles, a part of the ground color on the first, second and third terga. Genitalia are pale brownish orange.

Length: Body, 9-10 mm; wing, 8-9.5 mm.

Distribution: Holotype male and one paratype male, 13 mi. W of Coalinga, California, July 30, 1959, collected by F. M. Hull. One paratype female collected by T. F. Winburn and R. H. Painter in Sequoia National Park, California, July 26, 1930. (Painter Collection).

Neodiplocampta mira Coquillett

mira Coquillett, Trans. Amer. Ent. Soc., Vol. 14, p. 179 (1887) as *Anthrax*.

A pale species characterized by the relatively short face and the pale brownish-orange abdomen and genitalia. The legs too, are a pale brownish yellow, except the tarsi which are darker. It is distinguished from *miranda* n. sp. by the generally larger size and the fact that the pile of the abdomen instead of being golden red is a pale straw yellow, much in contrast to it. The wing is slightly broader.

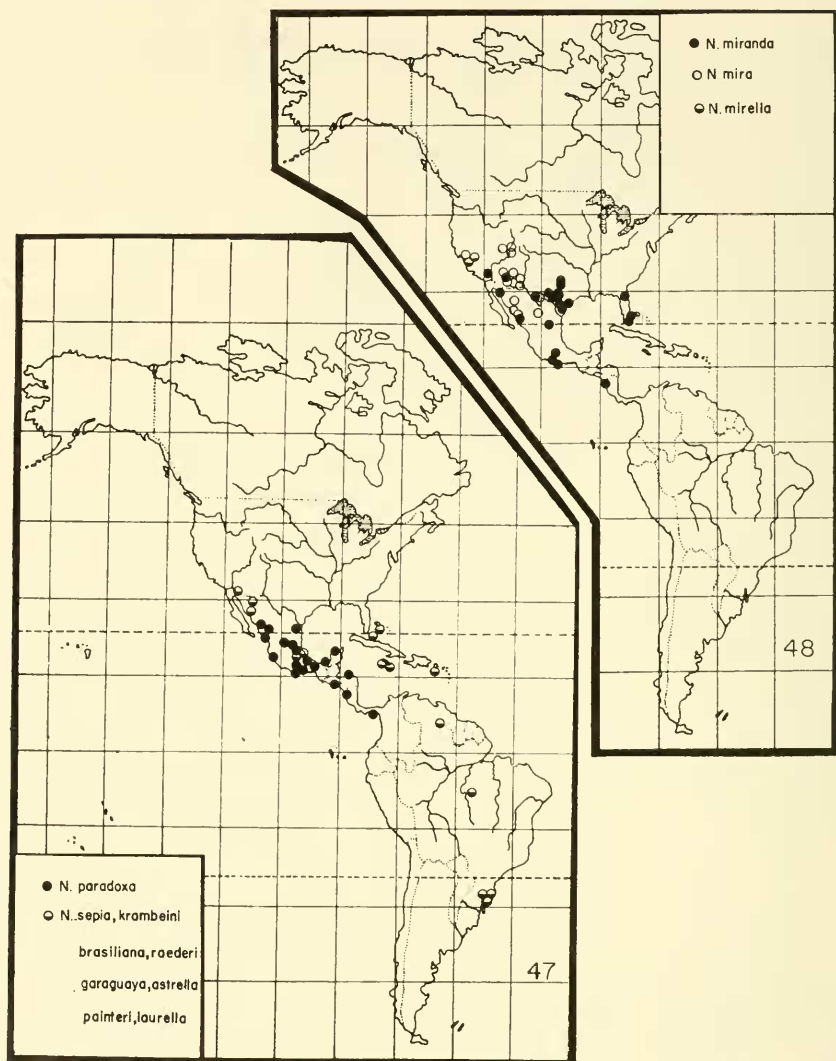


Fig. 47-48. Distribution patterns of *Neodiplocampta* spp.

Head: The vertex is black. The front is entirely black. The pile on the front consists of dense appressed, rather broad brownish-yellow scales, which may have a golden cast. On the lower and genal part of the facial cone the ground color matches that which lies above the apex and below the antenna. The pile on the facial cone consists of dense brownish-golden appressed scales similar to those on the front; these continue down the sides of genofacial area. The front characteristically has quite abundant fine black, erect, stiff hairs and these may be

continued more sparsely, appressed or sub-appressed on the upper part of the facial cone, and sometimes on the sides of the genofacial area, in which case they form an anterior marginal fringe. However, we have individuals in which these black hairs are entirely replaced by golden ones on the lower $\frac{1}{2}$ of the facial cone and on its anterior margin. The first segment is orange, little more than twice as long as the second segment and both these segments bear extensive black bristly pile. The second antenna segment is dark orange brown to blackish in color. The third segment is blackish but may have the base reddish. The proboscis is black with the labellum orange brown. Occiput is black, gray pollinose, with dense appressed brownish-golden scales.

Thorax: The thorax is black, including the whole of the scutellum, and densely covered with appressed pale ochre colored scales and golden hairs. Bristles of the scutellum and post margin of the mesonotum reddish golden. Pleuron almost entirely blackish, with pale gray pollen, except for the area above the hind coxa, and the anterior metasternum which are yellowish brown. The pile of the pleuron distinctly golden yellow, except that patches of tomentum may be pale straw colored.

Legs: The femora are light brownish yellow or honey colored. The scales are pale yellow, except that patches of black scales are sometimes present on the base of the first femur and apex of the hind femur. Femoral bristles are black. The tibiae vary from individuals in which the ground color is distinctly a light yellowish brown, and the scales yellow. The others in which the apical part of the anterior tibia and whole of the hind tibia is almost blackish, largely due to shining blackish scales. The tarsi are blackish.

Wings: The wings are comparatively broad and appear to be somewhat variable in the amount of color on the anterior $\frac{1}{2}$. The basic color of the wing is distinctly light reddish brown, and this fills all the costal subcostal, and first and second basal cells: it is especially prominent in the submarginal cell, ending diffusely at the top of the first loop of the second vein. Basal half of the first posterior cell more or less uniformly light reddish, light reddish brown. Contact of discal cell with fourth posterior cell not longer than the anterior crossvein. Sigmoid of second vein deep.

Abdomen: The abdomen is light reddish orange in ground color. Always underlying the dense pale cream colored or straw colored tomentum or scales. There is present an area of black ground color, which forms a triangle on the base of the second tergum, sometimes extending on to the third tergum and always extending on to the third tergum and always extending over at least the middle part of the first tergum. Posteriorly there is characteristically a black or very dark reddish band across the posterior border of the fourth tergum which may be accentuated by dense, appressed, black bristly hair which forms part of the band. Sometimes there are a few additionally scattered black hairs across the posterior margins of the second and third terga, also mixed in with the opaque tomentum on the end of the abdomen; there are some golden bristly hairs. The genitalia are entirely light brownish orange.

Length: Body, 6.5–10 mm; wing, 6–8 mm.

Distribution: ARIZONA: 4 ♂, Tonte N. Mon. Ariz., August 26, 1932, R. H. Painter; 3 ♂, Sacaton, Ariz., July 24, 1932, R. H. Painter; 1 ♂, 1 ♀, Congress, Ariz., July 20, 1930, T. F. Winburn and R. H. Painter; 2 ♂, 1 ♀, Tucson, Ariz., May 26, 1961, R. H. Painter; 1 ♂, 6 mi. S Bowie, Ariz., Sept. 5, 1958, R. H.

Painter; 1 ♂, Santa Cat. Mts., Ariz., May 12, 1961, R. H. Painter; 1 ♂, Tucson, Ariz., June 14, 1961, R. H. and E. M. Painter. CALIFORNIA: 5 ♂, 2 ♀, 7 mi. SE of Mecca, Calif., Aug. 29, 1958, R. H. Painter; 1 ♂, 1 ♀, Boulder Oaks, Calif., Aug. 6, 1930, T. F. Winburn and R. H. Painter; 1 ♂, San Onofre, Calif., August 5, 1930, T. F. Winburn and R. H. Painter; 1 ♀, E Highlands, San Bernardino Co., Calif., Aug. 23, 1958, R. H. Painter; 1 ♂, 14 mi. E of Julian, San Diego Co., Calif., August 26, 1962, R. H. Painter; 1 ♂, San Bernardino Co., Calif., no date, no collection label; 1 ♂, Desert Center, Calif., Sept. 16, 1964, collected by F. M. and M. C. Hull. MEXICO: 3 ♂, 1 ♀, 75 mi. S Hermosillo Son, Mexico, April 25, 1961, R. H. Painter; 5 ♂, 84 mi. S of Culiacan Sin, Mexico, Aug. 16, 1959, R. H. Painter; 1 ♂, 76 mi. S Hermosillo Son, Mexico, April 26, 1961, R. H. Painter; 2 ♂, 3 ♀, 16 mi. NE Cc. Obregon Son, Mexico, April 23, 1961, R. H. Painter; 1 ♂, 25 mi. SW of Terreon, Durango, Mexico, July 25, 1932, Hobard Smith; 1 ♂, Baja Calif., July 6, 1948, W. G. Downs. TEXAS: 1 ♀, Pecos, Texas, Aug. 4, 1954, F. M. Hull. UTAH: 1 ♂, 14 mi. S of Eureka, Utah, Sept. 1, 1965, R. H. Painter; 1 ♂, La Sal Mountains, San Juan Co., Utah, July, 1959, R. H. Painter.

Neodiplocampta astrella Hull and Martin, new species

This is a small species distinguished by its short conical face and by the wing pattern and venation; there is the typical pattern of sepia spots on the wing. They are more blackish than usual, the sigmoid bend of the second vein has only a gentle loop on both sections, more distinctive perhaps is the coloration of the first and second basal cells, which are wholly blackish, except a small, elongate, clear spot in the second basal cell, shortly before the end of that cell.

Head: Face sharp and conical and only moderately produced. The front and the upper, middle of the facial cone is shining black. There is an opaque black spot on either side of the front, and below it some scattered, appressed brownish-yellow scales; there are only a very few of these scales on the facial cone. There are numerous, erect, stiff black bristly hairs on the sides of the genofacial cone and still more and longer ones over the front. Sides of the facial cone shining yellowish brown, first segment of antenna, brownish yellow and $2\frac{1}{2}$ times as long as the second segment, second and third segments black, the third segment, onion-shaped with the style narrow at the base. Antennal pile black and bristly. Proboscis black, not extending beyond the apex of the face. The occiput is black or dark brown with brownish-gray pollen and abundant fine, appressed yellow tomentum.

Thorax: Shining black, including the scutellum; the brown pollen is very faint, and even greenish. The pile is an appressed pale brassy tomentum on the mesonotum and scutellum. Bristles of both these areas conspicuous and black. Pile on the pleuron and the anterior collar very pale yellow and much of it white. Pleuron brownish black with gray pollen.

Legs: Femora black or rarely dark brown, tarsi blackish and the tibiae ranging from light reddish brown to very dark, almost black.

Wings: More blackish than most species. The margin subhyaline, the loop of the second vein quite weak. The most distinctive feature is the small isolated

clear spot near the end of the second basal cell, all the remainder of which is blackish.

Abdomen: Shining black, characterized by shaggy white appressed tomentum on the basal half of the second tergum and the unusual conspicuous tufts of coarse, long, erect, pile on the side of the first tergum. Remainder of abdomen with flat appressed, shaggy pale yellow or straw-colored pile, and considerable fine, black, bristly pile all along the lateral margins. Genitalia shining brown, becoming diffusely brownish yellow on the bulbar basal part.

Length: Body, 7-8 mm; wing, 7-7.5 mm.

Distribution: Holotype, a male, Tacna, Arizona, March 15, 1961, collected by R. H. and E. M. Painter. Allotype, a female, Tacna, Arizona, March 15, 1961, collected by R. H. and E. M. Painter.

Paratypes, 1 ♂, 1 ♀ Tacna, Arizona, March 15, 1961, collected by R. H. and E. M. Painter; 2 ♂ Hermosillo, Son, Mexico, April 25, 1961, collected by R. H. and E. M. Painter; 1 ♀ Imuris, Mexico, April 19, 1961, collected by R. H. and E. M. Painter.

Neodiplocampta paiuteri Hull and Martin, new species

This species is related to *reoderi* Curran; it is readily characterized by the three submarginal cells. The face is only bluntly protruding. The loop at the end of second vein is not S-shaped, but presents a single, rather deep downward curve at the apex of this vein. The abdomen is very dark sepia brown. Obscurely blackish basally on the three first terga. The scalelike tomentum of the abdomen is predominately whitish with some brownish-yellowish scales intermixed. The abdomen has a slight banded appearance, due to a concentration of whitish scales on the base of second segment, and of dark brown scales on the base of third and fourth segments.

Head: The front and vertex are black and nearly opaque, with scattered, appressed, pale brownish-yellow scales and rather dense, erect, fine, stiff black hairs. The anterior middle part of the facial protuberance is blackish, with a narrow, anterior, nodal part brownish orange, which may extend down narrowly along the edge of the oral opening. There is a similar streak of brownish-orange color extending from the bottom of the antenna obliquely to the eye margin. The blackish color extends downward between these 2 diffuse streaks of orange color. Sides of facial protuberance with sparsely scattered scales of pale brownish yellow, and rather dense, erect, comparatively stiff, black, bristly hairs forming a stiff conspicuous fringe along the anterior edge of the oral cavity. First antennal segment, brownish yellow and nearly twice as long as wide. The second and third segments are light brown, the apex of style pale. Occiput black, feebly shining, with rather loose but abundant, pale, appressed, brownish-yellow, flattened hairs.

Thorax: Mesonotum and scutellum opaque black, at most faintly shining behind with a faint olive-brown pollen and dense, appressed, pale brownish-yellow, flattened hairs. The marginal hairs of the scutellum are black and there is a prescutellar row of fine black hairs. Pleuron darker than in most species.

Legs: The femora are quite dark brown; the tibiae and tarsi are lighter brown and bristles are black, but the appressed scales are very pale brownish yellow.

Wings: The wings are slender, pale grayish hyaline and have 6 diffuse, sepia brown spots, one of which is near the end of the second vein. The second vein has only 1 loop, which is comparatively deep.

Abdomen: Short oval, very reddish to orange in ground color, but widely blackish down the middle of the second, third and fourth segments, leaving the remainder a rather dark orange brown or in others only the narrow posterior margins of the segments are orange brown. The pile is quite dense consisting of appressed, narrow, pale brownish-yellow or flattened hairs, but with a wide band of reddish or coffee-brown colored scales on the fourth segment; also there is a more narrow, similar, less distinct band on the third segment; the first segment of the abdomen is blackish with very dense, black bristly hair. There are a few fine black bristly hairs over the remainder of the abdomen, especially on the sides of the segments.

Length: Body, 8.0–9.0 mm; wing, 7.0–8.0 mm.

This species is named in honor of the late Dr. Reginald H. Painter, foremost authority on beetles of the United States.

Distribution: Holotype, male, Jamaica, St. Andrew Cable Hut, September 11, 1954, T. H. Farr. Allotype, female, Kingston, Jamaica, Pallsodoes, May 23, 1917, T. H. Farr.

Paratypes: 1 male, East Bimini Island Bahamas, July 18, 1951, P. & C. Vaurie; 1 male, Conception Island Bahamas, April 7, 1965, Valentine & Hamilton; three females, S. Bimini Island, August 8 to 29, 1951 and July 20 to 31, 1951, C. P. Vaurie, R. H. & E. M. Painter; two males, W. Bimini Island, July 18, and July 20–31, 1951, C. & P. Vaurie, in the Hull Collection.

Neodiplocampta laurella Hull and Martin, new species

A medium-sized species, with strongly produced face, and brownish-orange femora and tibiae. The first posterior cell completely lacks the brown spots across the middle, and the loop of the second vein has no proximal kink as is present in the closely related *garaguaya*.

Length: Body, 9.5 mm; wings, 8.5 mm.

Head: Black and dully shining on the whole of the vertex, the front and broadly down the middle of the facial cone. There are scattered erect black hairs over the front extending to the posterior ocelli, and on the lower front, there are some scattered, opaque, ochre-yellow scales. The sides of the facial cone and the cheeks as far back as the occiput are brownish yellow. The conical area has a few fine black hairs and scattered yellowish scales. The blackish proboscis barely extends beyond the tip of the cone. First segment of the antenna brownish orange; others blackish. The occiput is black and faintly shining with appressed, slightly flattened ochre colored hairs.

Thorax: The mesonotum and scutellum are faintly shining black with dense appressed, brownish-yellow flattened hairs and scalelike hairs; posterior part of mesonotum with a few very fine black hairs; margin of the scutellum with 3 pairs of slender black bristles and a few lateral yellow bristles.

Legs: Femora and tibiae entirely light reddish brown to yellow, with appressed, brownish-yellow or straw-yellow scales and black bristles. The tarsi are dark brown.

Wings: Slender, with the 6 diffuse brownish spots, characteristic of the genus. The vein closing the discal cell is perhaps a little more than usually oblique. The contact of discal cell with the fourth posterior cell is a little longer than the vein closing the discal cell. The second vein has a distinct loop distally, but none proximally. The marginal cell is rather shaped like a thumb at the apex. The major part of the wing is nearly hyaline.

Abdomen: Like the type-species, the abdomen is black with at most the extreme curled-over edges of the first and second segments yellowish. The pile of the abdomen is densely appressed brownish yellow more or less ochreous; there are also fine subappressed black hairs scattered over most of the abdomen, but nowhere numerous; there is a tuft of erect, rather long, dense, comparatively pale, brownish yellow pile in the anterior corners of the abdomen.

Length: Body, 8 mm; wing, 8 mm.

Named for Mrs. Laura Hull, in appreciation of her faithful and devoted help with the researches of the author.

Distribution: Holotype female and paratype female, Nova Teutonia, February, 1951. Collected by Plaumann. In the Hull Collection.

Neodiplocampta roederi Curran

roederi Curran, North American Diptera, p. 200, (1934), for *Diplocampta roederi* Curran.

A small black species characterized by the relatively weak double loop or S-shaped figure at the end of the second vein. The presence of a double loop and the presence of two submarginal cells distinguishes this species from *painteri*, new species.

Head: The head is bluntly produced and the face makes a rectangular angle with the genal portion of the facial cone. The front and vertex are opaque black and likewise the entire anterior $\frac{1}{2}$ of the facial cone; these areas are covered sparsely with flat-appressed, brownish-yellow scales and with still more scattered and sparse stiff, suberect, black, bristly hairs. These black hairs form a compact tuft at the apex of the genofacial cone and a more scattered fringe down the light brownish-yellow sides of the genofacial margin. The first antennal segment is relatively short, the second segment quite short; both are reddish to yellowish brown; the third segment is blackish. The proboscis and labellum are black, not extending beyond the apex of the face. The occiput is black, covered with rather densely placed, narrow, brownish-yellow scales.

Thorax: The thorax is dully shining black; it bears abundant, appressed, pale brown, narrow scales or flattened hairs, which become whitish along the lateral margin of the mesonotum and form a distinct or rather conspicuous band across the base of the scutellum. The remainder of the scutellum bears light, yellow-to reddish-brown scales and 2 or 3 pairs of comparatively long, stiff black bristles on the margin, as well as more slender, shorter, yellowish bristly hairs along the margin toward the base. Pleuron very dark brown.

Legs: The femora are yellowish to reddish brown, the apical $\frac{1}{2}$ diffusely changing to black, or brownish black basally. The anterior tibia is brownish yellow, the middle tibia reddish, and hind tibia and tarsi dark brown. The scales on the legs are brownish white, the bristles black.

Wings: Hyaline, the pattern of spots quite distinct; the costal, subcostal and most of the marginal cell are dark brown. In addition to the usual pattern of spots on the crossveins and furcations of veins there is a brown spot on the bottom of the outer part of the sigmoid loop of the second vein. The basal part of this loop is distinct but weaker and more shallow. There are only 2 submarginal cells, which is the usual number in the genus.

Abdomen: The abdomen is very dark brown, subshining, but with the middle of the terga obscurely blackish. The abdomen is covered rather densely with slender, scalelike hairs, mostly light reddish brown on the posterior part of the abdomen, but with a very conspicuous tuft or patch of scalelike hairs which are almost white and are placed on the sides of the second segment; also the tufted, long, dense, erect, stiff pile on the lateral corners of the first segment is yellowish white and posterior to this erect tuft there is a matted brush of particularly long, light yellow hair, directed backward. Curiously there is a dense band of short very stiff black hair across the whole middle of the first segment. This is also found in *painteri*, n. sp.

Length: Body, 7.0–8.0 mm; wing, 7.0–8.0 mm.

Distribution: A male, Ensenada, P. R., June 14–19, 1915, collected by C. H. Curran.

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